Primary sarcomatoid lung cancer: clinical and evolutive features: A propos of five case reports.

Carcinome sarcomatoïde primitif du poumon : caractéristiques cliniques et évolutives : A propos de cinq cas.

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RÉSUMÉ

Prérequis: Les carcinomes sarcomatoïdes du poumon sont des carcinomes non à petites cellules (CNPC) du poumon récemmentindividualisés par l'Organisation Mondiale de la Santé. Leurs particularités cliniques, radiologiques et évolutives ne sont pas bien connues. Cependant, ces tumeurs paraissent être de mauvais pronostic avec une progression rapide et des métastases précoces. Bien qu'elles paraissent être chimio-résistantes, elles doivent être traitées de la même manière que les autres CNPC.

But: Evaluer les caractéristiques cliniques, radiologiques et évolutives des carcinomes sarcomatoïdes du poumon.

Méthodes: Nous rapportons cinq cas de patients présentant des carcinomes sarcomatoïdes du poumon avec leurs données cliniques et évolutives.

Résultats : Un patient présentait un stade IIB a eu une résection chirurgicale et une chimiothérapie adjuvante. Il est vivant 18 mois plus tard. Un autre, présentait un stade IIIB a été traité par de la chimio et radiothérapie. Il est vivant 6 mois après. Trois autres patients présentaient un stade IV parmi lesquels un a reçu de la chimiothérapie, les 2 autres ayant eu un performance status qui contre-indiquait ce traitement. Ils sont décédés 1 à 3 mois après le diagnostic.

Conclusion : Les carcinomes sarcomatoïdes du poumon ont un mauvais pronostic. Leur traitement n'est toujours pas bien établi. Beaucoup plus d'études sont pour cela nécessaires.

Mots-clés

Chimiothérapie adjuvante, carcinomes sarcomatoïdes

SUMMARY

Background: Primary sarcomatoid carcinoma of the lung are rare non small cell lung cancers (NSCLC) recently individualized by the World Health Organization. Their clinical, radiological and evolutive features are not well known but they seem to have bad prognosis with rapid progression and early metastases. Although they are felt to be chemo-refractory they must be treated as the other subtypes of NSCLC.

Aim: To evaluate clinical, radiological and evolutive features of primary sarcomatoid carcinoma of the lung.

Methods: We report the cases of five patients presenting sarcomatoid carcinomas and assess their clinical and evolutive data.

Results: One patient had stage IIB cancer underwent surgical resection and adjuvant chemotherapy, he is alive 18 months later; another had stage IIIB was treated by radio and chemotherapy and is alive 6 months later; and three other patients had stage IV in whom one had chemotherapy, the two others did not because of they had performance status. They died 1 to 3 months after the diagnosis.

Conclusion: Lung sarcomatoid carcinomas are of bad prognosis. Their treatment is nowadays not well established. Much more good studies are therefore needed.

Key-words

Adjuvant chemotherapy, Ileal metastases, Non small cell lung cancer, Sarcomatoid carcinoma, Surgical resection.

Primary sarcomatoid carcinoma of the lung cancer is a rare subtype of non small cell lung cancer (NSCLC) accounting for 0.3 to 3% of the primary lung cancers (1, 2). They were included in the World Health Oraganization (WHO) classification in 2004 as a lung proliferation that permanently shows morphologic aspects of epithelio-mesenchymal transition. This type of lung cancer in not well studied.
We report five cases of primary sarcomatoid lung cancer precising their management and follow-up.

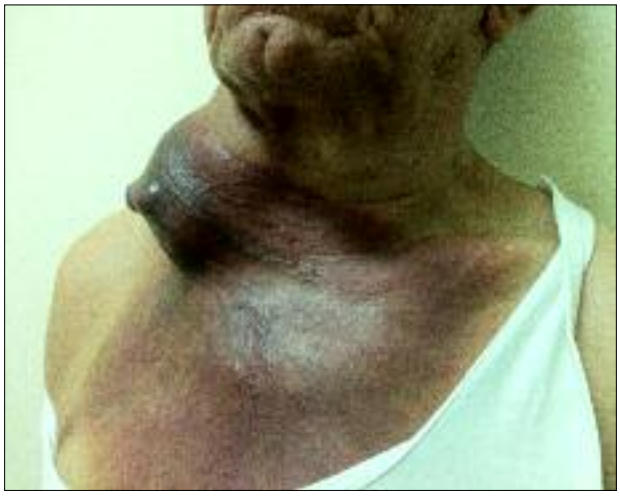
PATIENTS AND METHODS

We achieved a retrospective study including five patients in whom the diagnosis of sarcomatoid carcinoma of the lung was made.

RESULTS

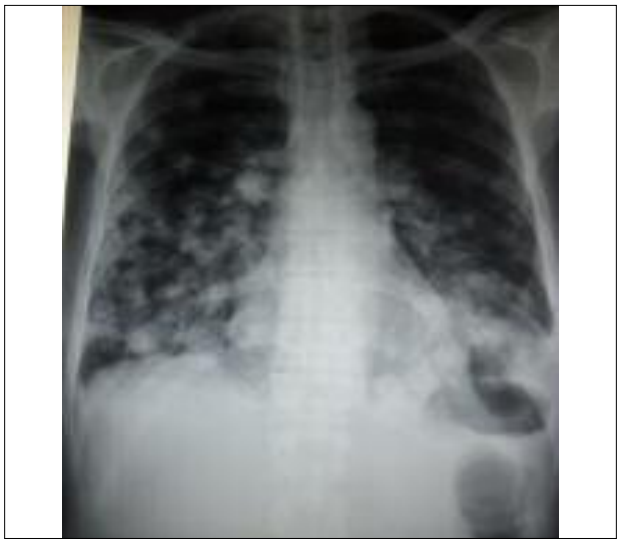
All patients were smokers and men. They were respectively: 49, 59, 68, 71 and 72 year-old. All the patients complained of hemoptysis. Two patients presented cough and one patient had dyspnea. All the patients had a performance status (PS) at 1 when the diagnosis was made. The mean delay to go to the doctor's office was 4 months. On the initial physical examination, two patients had sub-clavicular adenopathies: patient (P) 3 and P5. The adenopathy measured 2 cm in P3 and 5 cm in P5. In the latter, it transformed in a hard erythematous mass measuring 12 cm of diameter 15 days after the first examination and was associated to an important superior vena cava syndrome with a red skin of the thorax (Fig.1).

Figure 1: Sub-clavicular adenopathy and superior vena cava syndrome (P5).



Chest X-ray film showed a heterogenous opacity in 4 patients measuring respectively: 2 cm, 4 cm, 5 cm and 7 cm. In the other patient (P2), there were multiple bilateral opacities (Fig.2). Bronchial fibroscopy was normal in 3 patients (P3,4 and 5). In P1, it revealed a bud that completely obstructed the culminal bronchus and in P2 it revealed an infiltration of the right basal pyramid narrowing its bronchi. Pathologic diagnosis of the lung cancer was made thanks to the biopsy of the adenopathy in both cases with sub-clavicular adenopathies, a surgical biopsy of the lung in one case, trans-parietal biopsy in one case and by bronchial biopsy in the other case. Anatomopathological examination of the biopsy showed a carcinoma with fusiform cells in 3 patients, an undifferenciated carcinoma in one patient and a carcinosarcoma in one patient. In all the patients, the cells standed positive for vimentine on immunohistochemistry.

Figure 2 : Chest X-ray film: multiple bilateral opacities (P2).



All patients had chest, abdominal and cerebral computed tomography (CT) scan as part of the TNM staging investigations (Fig.3, Fig.4).

Figure 3 : Chest CT scan (parenchymal window): parenchymal opacity associated to numerous nodules (P2).

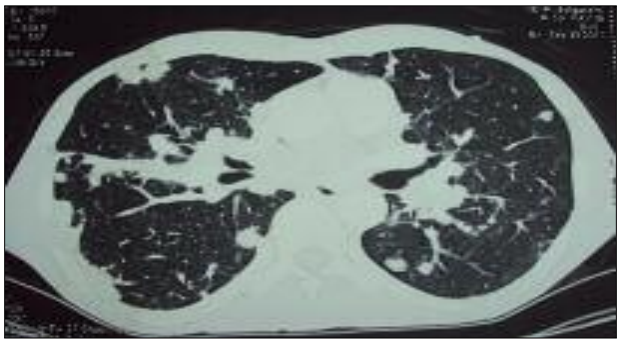
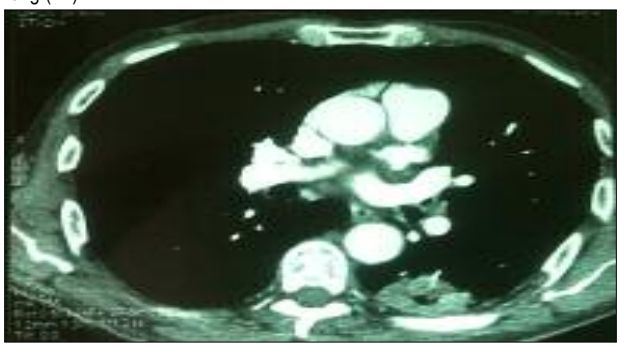


Figure 4 : Chest CT scan (mediastinal window): left upper lobe mass of the lung (P4).



Lung cancer was classified as: stage IIA (T2aN1M0) in P3, stage IIIB (T3N3M0) in P5, stage IV (metastases: ileal in P1, hepatic in P2 and bony in P4) in the 4 other patients. In P1 and P2 (stage IV), there was a very rapid decrease in the general status that contra-indicated chemotherapy and they died one month after the diagnosis was made. P3 (stage IIA) underwent left upper lobectomy then had adjuvant chemotherapy with gemcitabine at the dose of 1250 mg/m2 on day 1,8 and 21; and cisplatine at the dose of 80 mg/m2 on day 1; during 3 cycles. Then, a thoracic CT scan didn't show any relapse of the cancer. At present, the patient is still alive 18 months after adjuvant chemotherapy. His PS is 0 and he had no relapse of his cancer. In P4 (stage IV), the PS became 3 and deep vein thrombosis of the lower limbs occurred. He died 3 months after the diagnosis. P5 (stage IIIB) had 3 cycles of chemotherapy with gemcitabin and cisplatin to the same doses than the latter patient associated to curative thoracic radiotherapy resulting in a regression of the tumor. Then, 3 other cycles of the same chemotherapy were administered. Chest CT scan showed stability of the tumor. Now, the follow-up is of 6 months after chemotherapy. The PS is a 0.

DISCUSSION

Sarcomatoid carcinoma of the lung is underdifferenciated carcinoma that contains sarcoma-like or sarcoma component (with fusiform or geant cells) associated or no to a pseudosarcomatous contingent. Histopathologic diagnosis of sarcomatoid carcinoma is complex because of the heterogenicity of the tumors. That is why it is preferable to obtain histologic samples of sufficient size to highlight the coexistence of carcinomatous and mesenchymal components. In fact, sarcomatoid carcinoma is misdiagnosed before surgery in 60% cases (1, 3, 4). However, biopsy of the bronchial epithelium, of an adenopathy or transparietal lung biopsy may make the diagnosis. In four of our five patients, these types of non invasive biopsies allowed the diagnosis.

A in our series, primary sarcomatoid carcinoma of the lung predominantly occur in heavy smoking males, with a mean age at diagnosis between 65 and 70 years presenting with hemoptysis (3,5). Chest X-ray film generally shows one large peripheral opacity in the superior lobes (1, 3, 5). One of our five patients presented bilateral opacities; the others had a unique mass. Sarcomatoid carcinoma is most of the time (40%-70%) diagnosed with metastases (1, 3, 4, 5). They can occur not only in the common sites, but also in unusual ones like oesophagus, small intestine, peritoneum, sub-cutaneous tissue or kidney (3, 6, 7). Three of our patients had metastases when the diagnosis was made. One of whom had ileal metastases which is a rare site of metastases. They died one to three months after the diagnosis. After surgery, 60% of the patients with sarcomatoid carcinoma of the lung had tumor progression consisting on metastases (1, 3, 4). Although sarcomatoid carcinoma is generally felt to be chemo-refractory, little data is available about the efficiency of chemotherapy in this subtype of NSCLC. However, a platinum-based doublet of conventional chemotherapy is nowadays the standard of the first line non operable tumors since the recent report critically discuss the presence of EGFR mutation in these tumors (8, 9). We had a good follow-up for the two patients who were treated by this doublet: one with radiotherapy (stage IIIB) and one as an adjuvant chemotherapy (stage IIB). Jamie "et al" (10) also reported good results in 20 patients with peri-operative chemotherapy. Concerning targed therapies, Beate "et al" (11) showed a good response with sunitinib and therefore emphasizes on the importance of molecular analyses of these tumors.

Sarcomatoid carcinoma is characterized by a rapid growth of the tumor and rapid occurrence of metastases. For these reasons, it is known to be aggressive bearing worse prognosis than the other subtypes of SCLC (12, 13). This justifies their segregation as an independent histologic type in the WHO classification. In fact, the median free relapse survival is short between 6 and 8 months. Median overall survival ranges between 6 and 20 months and 5-year survival does not exceed 10 to 20% (1, 4, 6, 14). We report a series of 5 patients with sarcomatoid carcinoma having respectively a stage IIB still alive after 18 months without progression, stage IIIB still alive after 6 months with no progression and 3 patients having stage IV who died one to three months after the diagnosis. Our results seem to show a better survival in localized tumors. However, the follow-up is too short to draw accurate conclusions.

CONCLUSION

Lung sarcomatoid carcinomas are rare tumors of the lung which are not well investigated. They are of bad prognosis because the tumor grows and metastasize rapidly and are more refractory to chemotherapy than the other types of lung cancer. Their treatment is nowadays not well established. Much more good studies are therefore needed.

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